## CONSTRUCTION NOTES AND SPECIFICATIONS

#### GENERAL

- 1.1. THESE PLANS NOT FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY ENGINEER AND APPROVED BY THE LOCAL
- 1.2. THESE PLANS ARE TO BE USED FOR SERVICING AND GRADING ONLY; ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. THESE PLANS MUST NOT BE USED TO SITE THE PROPOSED BUILDING.
- 1.3. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF 4. THE DESIGN ENGINEER.
- 1.4. THESE PLANS ARE NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF MTE CONSULTANTS INC.
- 1.5. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST:
- 1.5.1. CHECK AND VERIFY ALL EXISTING CONDITIONS, LOCATIONS AND ELEVATIONS WHICH INCLUDES BUT IS NOT LIMITED TO BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS. REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING.
- 1.5.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND
- 1.5.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND BASEMENT FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.
- 1.5.4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.
- 1.6. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO EXISTING WORKS.
- 1.7. ALL UNDERGROUND SERVICES ARE TO BE CONSTRUCTED IN FULL COMPLIANCE WITH THE ONTARIO PROVINCIAL BUILDING CODE (PART 7, PLUMBING), THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) AND IN COMPLIANCE WITH LOCAL APPLICABLE CODES AND REGULATIONS; WHICH CODES AND REGULATIONS SHALL SUPERSEDE ALL OTHERS.
- 1.8. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE, DIVISION C, PART 1, SECTION 1.2.2. GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTORS EXPENSE.
- 1.9. PLAN TO BE READ IN CONJUNCTION WITH MTE DRAWING C2.1.
- 1.10. LEGAL INFORMATION TAKEN FROM PLAN PREPARED BY J. DON MACMILLAN LIMITED, DATED AUGUST 6, 2014.
- 1.11. EXISTING TOPOGRAPHIC INFORMATION TAKEN FROM PLAN PREPARED BY JOHN ERNEWEIN LIMITED. MTE ASSUMES THAT TOPOGRAPHICAL INFORMATION IS AN ACCURATE REPRESENTATION OF CURRENT CONDITIONS
- 1.12. RETAINING WALLS TO BE DESIGNED BY OTHERS. FOR WALLS EXCEEDING 1.0m IN HEIGHT, SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW AND APPROVAL AND BUILDING PERMIT MUST BE OBTAINED. WALLS OVER 0.6m IN HEIGHT REQUIRE GUARDS. HIGH SIDE OF RETAINING WALLS TO BE BACKFILLED WITH FREE DRAINING MATERIAL.
- 1.13. SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1.0 METER FROM FOUNDATION WALL.
- 1.14. FILTER FABRIC TO BE TERRAFIX 270R OR APPROVED EQUIVALENT.
- 1.15. MAXIMUM GRASSED SLOPE TO BE 3:1. SLOPES GREATER THAN 3:1 TO BE LANDSCAPED WITH LOW MAINTENANCE GROUND
- 1.16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS, AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE LOCAL MUNICIPALITY AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 1.17. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
- 1.18. CONTRACTOR TO MAINTAIN A 'CONFINED TRENCH CONDITION' IN ALL SEWER AND SERVICE TRENCHES.
- 1.19. FOLLOWING COMPLETION OF PROPOSED WORKS AND PRIOR TO OCCUPANCY INSPECTION. ALL STORM AND SANITARY SEWERS ARE TO BE FLUSHED, AND ALL CATCHBASIN AND CATCHBASIN MANHOLE SUMPS ARE TO BE CLEANED OF DEBRIS AND SILT.

# 2. STORM SEWERS

- 2.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030, 802.031, OR 802.032. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO BE GRAN. "A".TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- 2.2. STORM SEWERS, 150mm AND SMALLER, SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR28 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.
- 2.3. STORM SEWERS 200mm TO 375mm SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 OR RIBBED PVC SEWER PIPE CSÁ B182.4-M90 ASTM-F794 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS. RIBBED PVC NOT TO BE USED WITHIN RIGHT-OF-WAY.
- 2.4. MANHOLES AND MANHOLE CATCHBASINS TO BE 1200mm DIAMETER PRECAST WITH ALUMINIUM STEPS AT 300mm CENTRES AS PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED.
- 2.5. MANHOLES TO BE BENCHED PER OPSD 701.021.
- 2.6. CATCHBASINS TO BE 600mm SQUARE PRECAST AS PER OPSD
- 2.7. CATCHBASIN MANHOLES AND CATCHBASINS TO HAVE A MINIMUM 600mm DEEP SUMP.
- 2.8. MANHOLE AND CATCHBASIN, FRAMES, GRATES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.
- 2.9. STORM MANHOLE LIDS TO BE PER OPSD 401.010 TYPE 'B' CATCHBASIN AND CATCHBASIN MANHOLE GRATES TO BE PER OPSD 400.100.
- 2.10. STORM SEWERS AND SERVICES TO HAVE MINIMUM 1.4m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL CONTACT DESIGN ENGINEER FOR "SEWER PIPE INSULATION DETAIL".
- 2.11. UNDER NO CIRCUMSTANCES SHALL THE BUILDING FOUNDATION DRAINS BE CONNECTED DIRECTLY TO THE STORM SEWER

# SANITARY SEWERS

- 3.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO BE GRAN. "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% SPMDD.
- 3.2. SANITARY SEWERS 150mm AND SMALLER SHALL BE POLYVINYL

- CHLORIDE (PVC) PIPE DR28 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.
- 3.3. SANITARY SEWERS AND SERVICES TO HAVE MINIMUM 1.4m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL CONTACT DESIGN ENGINEER FOR "SEWER PIPE INSULATION DETAIL"
- 3.4. CONTRACTOR RESPONSIBLE FOR TESTING OF SANITARY SEWERS IN ACCORDANCE WITH OPSS 410.

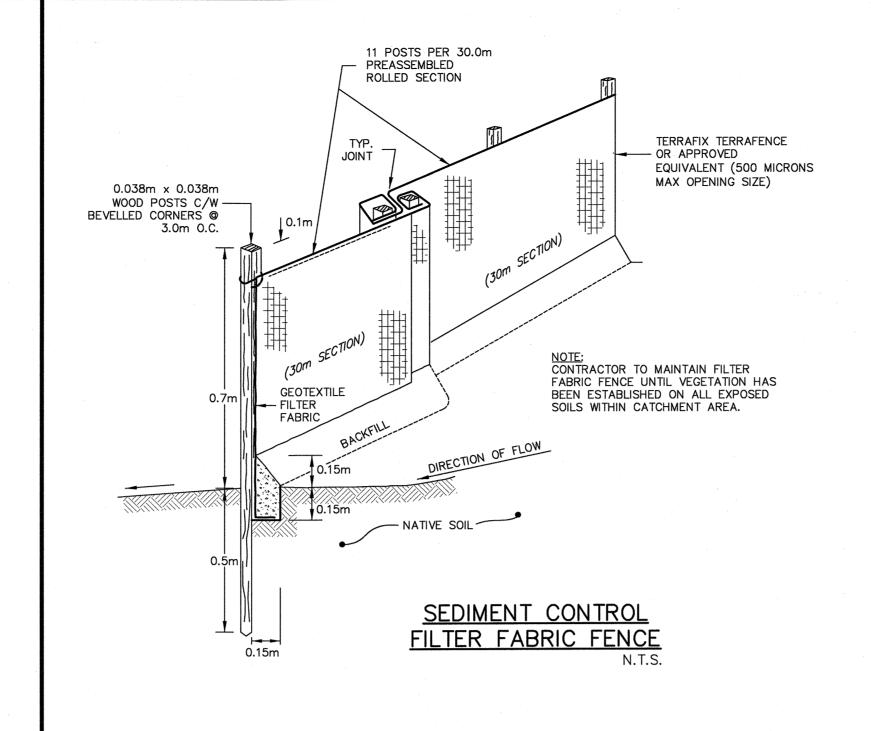
- 4.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO BE GRAN. "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% SPMDD.
- 4.2. WATER SERVICE CONNECTIONS 50mm AND SMALLER, SHALL BE TYPE "K" SOFT COPPER ASTM B88, ALUMINIUM COMPOSITE CSA B137.10, OR HDPE SERIES 160 AWWA C901 WITH SERVICE SADDLE. COPPER SERVICE SHALL HAVE 5.5Kg ANODE.
- 4.3. ALL METALLIC FITTINGS (EXCLUDING CURB/MAIN STOP AND BRASS FITTINGS) AND APPURTENANCES INCLUDING SADDLES. VALVES, TEES, BENDS ETC ARE TO BE WRAPPED WITH AN APPROVED PETROLATUM SYSTEM CONSISTING OF PASTE, MASTIC AND TAPE. PARTICULAR ATTENTION SHALL BE PAID TO ANODE INSTALLATION. CONTRACTOR TO REFER TO THE MOST RECENT EDITION OF AREA MUNICIPALITIES DESIGN GUIDELINES AND SUPPLEMENTAL SPECIFICATIONS FOR MUNICIPAL SERVICES FOR WRAPPING DETAILS.
- 4.4. PVC WATERMAIN SHALL HAVE TWU STRANDED COPPER, AWG8 TRACER WIRE STRAPPED TO TOP AT 5 METRE INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRANTS AND CAD WELDED TO THE LOWER FLANGE OF THE HYDRANT.
- WATER CONNECTIONS MAYBE PLACED IN THE SAME TRENCH WITH A STORM OR SANITARY CONNECTION ONLY IF A MINIMUM VERTICAL SEPARATION OF 500mm IS MAINTAINED BETWEEN THE WATER SERVICE AND ANY OTHER PIPE, IN ACCORDANCE WITH SECTION 7.3.5.7.(2)(a)(i) OF THE ONTARIO BUILDING CODE
- 4.6. ALL WATERMAINS AND SERVICES TO HAVE MINIMUM 2.0m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL CONTACT DESIGN ENGINEER FOR WATER PIPE INSULATION DETAIL".
- 4.7. LOCAL MUNICIPALITY TO SUPPLY WATER METER. CONTRACTOR TO INSTALL CHAMBER, METER, ALL VALVES, PIPING AND REMOTE METER READOUT AT LOCATION ON BUILDING EXTERIOR ACCEPTABLE TO MUNICIPALITY.

### EROSION AND SEDIMENT CONTROL

- 5.1. CONTRACTOR TO INSTALL EROSION CONTROL MEASURES AS SHOWN PRIOR TO CONSTRUCTION AND MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND VEGETATIVE COVER IS ESTABLISHED.
- 5.2. ALL SILT FENCING TO BE INSTALLED PRIOR TO ANY AREA GRADING, EXCAVATING OR DEMOLITION COMMENCING.
- 5.3. EROSION CONTROL FENCING TO BE INSTALLED AROUND BASE OF ALL STOCKPILES.
- EROSION PROTECTION TO BE PROVIDED AROUND ALL STORM AND SANITARY MHs AND CBs.
- 5.5. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL ADDITIONAL EROSION CONTROL STRUCTURES.
- 5.6. EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED.
- 5.7. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE ENGINEER AND THE DEPARTMENT OF PUBLIC WORKS.
- 5.8. CONTRACTOR TO CLEAN ROADWAY AND SIDEWALKS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE
- CONTRACTOR MUST REMOVE EROSION AND SEDIMENTATION FENCING PRIOR TO COMPLETION OF PROJECT. CONTRACTOR TO HAVE EROSION AND SEDIMENTATION FENCE INSPECTED WHEN VEGETATION HAS ESTABLISHED. BUT PRIOR TO FENCE BECOMING OVERGROWN. ENGINEER'S REPRESENTATIVE TO DETERMINE IF VEGETATION HAS REACHED THE CRITICAL POINT AND WILL THEN INSTRUCT CONTRACTOR TO REMOVE FENCE.

# MAINTENANCE RECOMMENDATIONS

- EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY AND ANY DAMAGE REPAIRED IMMEDIATELY, SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF 1/3 THE HEIGHT OF THE FENCE.
- 6.2. OWNER'S REPRESENTATIVE TO MONITOR EROSION CONTROL STRUCTURES TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS PERFORMED TO CITY REQUIREMENTS.



MINIMUM 2400mm INSULATION WIDTH

DEPTH

FROST `

50mm MIN

SEWER PIPE INSULATION DETAIL

FOR SEWER PIPES HAVING LESS THAN 1400mm

COVER AND MINIMUM 615mm COVER

N.T.S.

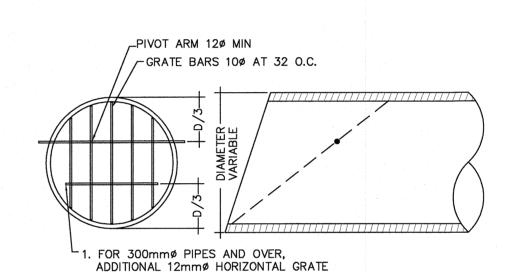
C.B. FRAME & GRATE HOLDS SILTSACK IN PLACE REMOVAL STRAPS AND DUMPING STRAPS RUNOFF. — RUNOFI FINISHED GRADE - ADJUSTMENT UNITS EXPANSION RESTRAINT SILTSACK OR APPROVED EQUIVALENT WOVEN POLYPROPELENE FILTER FABRIC BAG PRECAST CB OR CBMH OUTLET PIPE

## MAINTENANCE SCHEDULE

- -INSPECT AFTER EVERY MAJOR RAIN EVENT. -INSPECT EVERY 3 WEEKS MINIMUM.
- -SILTSACK SHOULD NEVER BE OVER HALF FULL. -FULL BAG CAN BE REMOVED, DUMPED, CLEANED AND REUSED (TO REMOVE INSERT 25mm REBAR INTO REMOVAL FLAP POCKETS )

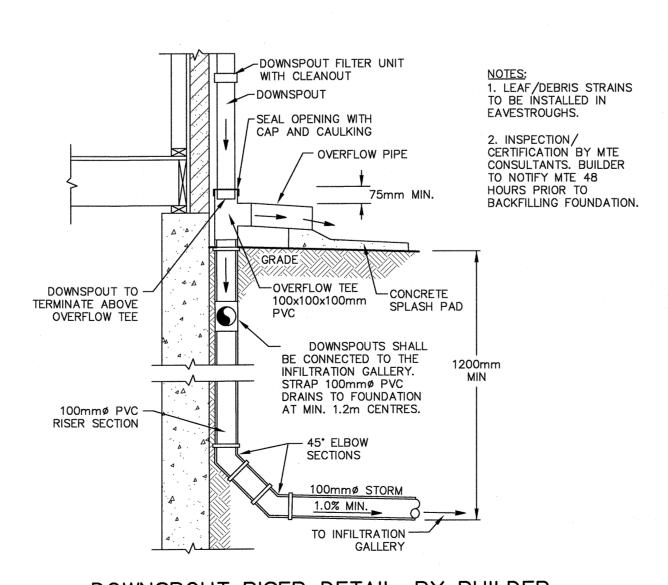
(TO DUMP INSERT 25mm REBAR INTO BOTH DUMPING STRAPS)

TEMPORARY SILTSACK SILTATION CONTROL IN CB



- 2. FOR PIPES LESS THAN 300mmø, NO HORIZONTAL GRATE BARS REQUIRED.
- 3. ALL DIMENSIONS ARE IN MILLIMETERS
- UNLESS OTHERWISE STATED. 4. ALL MATERIALS TO BE DOUBLE HOT

DIPPED GALVANIZED. RODENT GRATE DETAIL



PAVEMENT STRUCTURE (ASPHALT AND/OR GRANULAR), OR

SELECT NATIVE MATERIAL AND TOPSOIL, AS SPECIFIED ON

MINIMUM 150mm GRANULAR-A BEDDING & BACK FILL BELOW

NOTE: TRENCH SIDE-SLOPES IN AREAS OF PIPE INSULATION TO BE MAXIMUM 1:1 SLOPE, NO VERTICAL SECTIONS ALLOWED

NATIVE SOILS - WHERE NATIVE SOIL IS SOFT AND/OR OF ORGANIC

CONTENT. REMOVE TO DEPTH OF SUITABLE SOILS AND REPLACE

WITH GRANULAR-B2 MATERIAL COMPACTED TO 95% SPMDD, OR

- FROST DEPTH - PROTECT SOIL ZONE UNDER PIPE FROM FREEZING

CONSTRUCT IN ACCORDANCE WITH WRITTEN DIRECTION FROM

REFER TO OPSD 3400.011 FOR SPECIFIC LOCAL FROST DEPTH

AND ABOVE PIPE AND INSULATION BOARD, COMPACTED TO

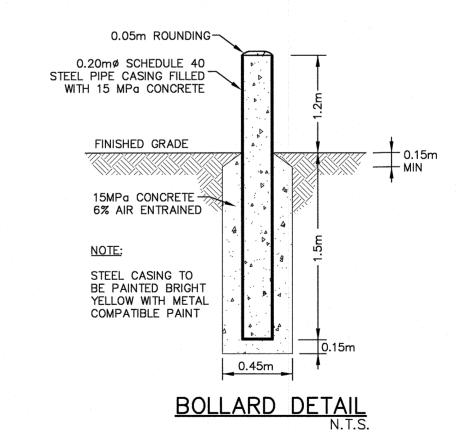
RIGID EPS-INSULATION BOARD PER SPECIFICATION NOTES

(MINIMUM R10-THICKNESS, TYPICALLY 50-65mm)

UNLESS INDICATED IN DETAIL

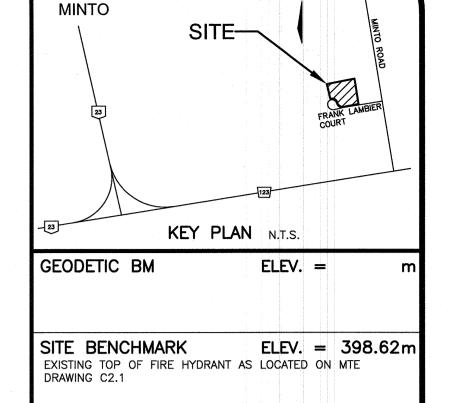
GEOTECHNICAL CONSULTANT

DOWNSPOUT RISER DETAIL-BY BUILDER



150mm THICK GRANULAR 'A 350mm THICK GRANULAR 'B' APPROVED NATIVE SUBGRADE

PROPOSED GRAVEL STRUCTURE



NOTE TO CONTRACTOR

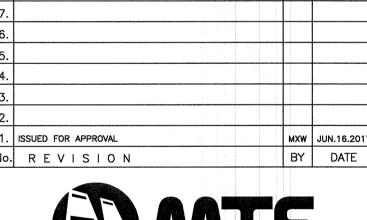
DO NOT SCALE DRAWINGS.

**TOWN** 

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE

ALL DRAWINGS REMAIN THE PROPERTY OF THE ENGINEER AND SHALL NOT BE REPRODUCED OR REUSED WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

THE OWNER/ARCHITECT/CONTRACTOR IS ADVISED THAT M.T.E. CONSULTANTS INC. CANNOT CERTIFY ANY COMPONENT OF THE SITE WORKS NOT INSPECTED DURING CONSTRUCTION. IE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY M.T.E. CONSULTANTS INC. PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR INSPECTION.



Engineers | Scientists | Surveyors

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> JOHN ERNEWEIN LIMITED

> > MINTO, ONTARIO

MINTO, ONTARIO

**PROJECT** J. HORRIGAN

CIVIL WORKS 121 FRANK LAMBIER COURT

121 FRANK LAMBIER COURT

**CONSTRUCTION NOTES** & DETAILS PLAN

Project Managei Project No 42914-200 M. WILSON Checked By Design By MXW Drawn By Checked By NNP Drawing No. Surveyed By Date

Jun.15/17 NTS Sheet 2 of 2